

Appl. No. 09/808,067
Art Unit 3623
Reply to Office Action of September 15, 2005

Amendment To The Title Of The Invention

Please replace the title of the invention with the following amended title:

Method and System for Determining an Economically Optimal Dismantling of Machines

Remarks

This paper is responsive to the Office Action mailed September 15, 2005. Reconsideration of the subject application is respectfully requested based on the Amendments and Remarks.

Independent claim 1 was amended, as suggested by the Examiner, and care has been exercised to avoid the introduction of new matter. Claims 27, 55 and 84 have been amended to correct typographical errors.

Claims 1-86 remain in this application.

Objections

The Examiner objected to the drawings. Applicants have submitted formal drawings.

The Examiner objected to the title of the invention. To expedite the prosecution of the application, the Applicants have amended the title to match a version of the title suggested by the Examiner.

Claims 1-86 were objected to by the Examiner because the terms de-manufacturing / demanufacturing were inconstantly spelt. Applicants have amended claims 27, 55 and 84 to correct the typographical errors.

35 U.S.C. §101 Rejections

Claims 1-29 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Applicants believe that claims 1-29 are directed to statutory subject matter and that the claimed invention produces a useful, concrete and tangible result.

The examiner rejected claims 1-29 under 35 U.S.C. 101 as directed to non-statutory subject matter, citing MPEP Section 2106. Section 2106 cites *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed.Cir. 1998). A USPTO White Paper entitled *Automated Financial or Management Data Processing Methods (Business Methods)*, published on the PTO web site points out that “the *State Street* decision triggered an awareness of the ‘business method claim’ as a viable form of

patent protection.... such patents express the practical application (useful, concrete and tangible result) of technology that is the essence of an innovation. This segment of Class 705 is transitioning away from technology towards the end result the inventor is attempting to achieve with that technology." (*Business Methods* White Paper at p. 9). In the *State Street* case, the Federal Circuit explicitly allowed business method patents, ruling that "such claims should be treated like any other process claim." *Id.* at 1377.

However, in order expedite the prosecution of the application, claim 1 has been amended to include positive recitation of technology in the preamble of the claim 1, as suggested by the Examiner. Applicant submits that claims 2-29 are patentable by virtue of their dependency from claim 1 which is believed to be patentable for reasons set forth above. Applicants believe that no new matter has been added.

Withdrawal of the rejections under 35 U.S.C. §101 to claims 1-29 is requested.

35 U.S.C. §102(b) Rejection

Claims 1, 3-4, 11, 19, 21-30, 32, 39, 47, 49-59, 61, 68, 76 and 78-86 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,965,858 to Suzuki et al. ("Suzuki").

Claims 1, 30 and 58 recite as follows:

1. (Currently Amended) A computer-implemented method for optimizing a supply to meet a demand comprising the steps of:

determining a parts demand;

determining a machine supply;

maintaining a database of machine supply information, the machine supply information including, for each of a plurality of machine types, a number of machines of said machine type in the machine supply, a set of part types in said machine type, a corresponding monetary value for each part type, and a number of each part type in said machine type;

configuring an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information.

30. An economic supply optimization system comprising:

a processor;

a data storage device operably connected to the processor, the data storage device providing data storage for the system;

a database of machine supply information on the data storage device, the machine supply information including, for each of a plurality of machine types, a number of machines of said machine type in the machine supply, a set of part types in said machine type, a corresponding monetary value for each part type, and a number of each part type in said machine type;

a program executable by the processor to determine a parts demand;

determine a machine supply; and,

configure an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information.

58. Computer executable process steps operative to control a computer, stored on a computer readable medium, for determining an optimal dismantling configuration comprising the steps of:

determine a parts demand;

determine a machine supply;

configure the optimal dismantling configuration to meet the demand with a particular number and a particular type of machine from the machine supply.

With respect to the step of claim 1, “determining a parts demand,” and claims 30 and 58 “determine a parts demand,” the Examiner cited to column 9, lines 26-35, column 10, lines 26-40, column 24, lines 4-42, Fig. 5 element 41, and Fig. 30 of Suzuki as teaching these steps. However, these citations do not teach the steps of the claims, as discussed below.

The cited paragraphs in column 9, lines 26-35, column 10, lines 26-40, and column 24, lines 4-42 of Suzuki disclose basic information about what is stored in a database. Specifically, at column 9, lines 26-35, Suzuki refers to “a market information database 41 for storing information concerning market prices of used articles, part demand information and the like.” (Col. 9, Lines 33-36). The Examiner cited to another discussion of the market information database (at column 10, lines 26-40), which discloses “stored information concerning market prices of used articles, stock information

of the parts for maintenance, information concerning the demand for the articles of concern, etc., internally of the enterprise or company, as shown in FIG. 30."

The paragraphs cited at column 24, lines 4-42, of Suzuki, disclose that a "decision method may be so designed as to compare the used-article market price of the corresponding used articles with the cost involved in restoring the article. When the restoration is profitable, then the discarded article is decided to undergo the recycle processing." Suzuki further discloses that the market price of the article to be restored may be estimated by acquiring information about the article, such as the manufacture name, article name, model name, manufactured date and the use history and then retrieving the price data of the used article of the same condition or the price data of similar used article on the market from a market information database 41. (Col. 24, Lines 16-27).

In none of the cited paragraphs does Suzuki teach or disclose "determining a parts demand" and "determine a parts demand." Suzuki simply teaches storing and accessing information concerning the demand, market information, etc. in a market information database 41 (shown in Figs. 5 and 30), and accessing the market database 41 to retrieve information for use in estimating market prices. Nowhere in Suzuki, at the cited paragraphs, is there any reference to "determining a parts demand" and "determine a parts demand." As such, the paragraphs cited by the Examiner do not in fact teach "determining a parts demand" and "determine a parts demand," as recited in claim 1, 30 and 58.

With respect to the step of claim 1, "determining a machine supply," and claims 30 and 58 "determine a machine supply," the Examiner cited to column 13, lines 52-68, column 14, lines 1-10, column 35, lines 1-25, Fig. 5 element 35, and Figs. 7 and 26 of Suzuki as teaching these steps. However, these citations do not teach the steps of the claims, as discussed below.

The cited paragraphs, at column 13, lines 52-68 and column 14, lines 1-10, disclose a variety of types of information stored in one or more databases. For example, in Suzuki the information may generally be classified into four kinds of information: "(1) article specifications information of discarded articles, (2) article use history information,

(3) statutory regulation/standard information, (4) recycle processing method information on a part/material basis, and (5) market information.” Other stored information available in Suzuki is “outer dimensions, weight, performance information (such as dissipation power), information of component parts (part number, part name, manufacturer, model name, material, material manufacturer, weight, information concerning harmful / hazardous parts, information concerning reusable part candidate, use history, etc.), disassembling method, assembling method, quality check method, etc.”

The cited paragraphs at column 35, lines 1-25 disclose information stored in an article specifications information database 35. For example, the article specifications information includes enumerated manufacturer name, category or class of article, name of article, manufactured date, component part information (part name, part number, part manufacturer, model name of part, harmfulness or non-harmfulness, possibility of reuse, use history, etc.), disassembling or decomposing methods (disassembling procedure, tool necessitated, disassemble guiding chart, etc.), etc.

The information stored in the article specifications information database 35 is “previously generated or created.” (Col. 35, Lines 3-4). The “information may be generated by a designer of the article upon designing thereof or after the designing,” and “[r]egistration of the article specifications information in the article specifications information database 35 may be carried out by a manufacturer of the article or a businessman entrusted by the manufacturer.” (Col. 35, Lines 4-9). Suzuki further discloses that the “information registered in the article specifications information database 35 may contain only the information of articles (single type of articles or plural types of articles) of a certain specific manufacturer or alternatively the information of articles (single type or plural types of articles) of plural manufacturers.”

However, Suzuki does not teach “determining a machine supply” and “determine a machine supply.” As explained in Suzuki, various categories of previously generated or created article specification information are stored in an article specifications database. Applicants point out to the Examiner that, by contrast, claims 1, 30 and 58 claim “determining a machine supply” and “determine a machine supply.” Suzuki does not “determine” a “machine supply.” As such, the paragraphs of Suzuki cited by the

Examiner do not disclose “determining a machine supply” and “determine a machine supply,” as recited in claims 1, 30 and 58.

With respect to the step of independent claim 1 and the step of dependent claim 59, “maintaining a database of machine supply information, the machine supply information including, for each of a plurality of machine types, a number of machines of said machine type in the machine supply, a set of part types in said machine type, a corresponding monetary value for each part type, and a number of each part type in said machine type,” and the step of claim 30 “a database of machine supply information on the data storage device, the machine supply information including, for each of a plurality of machine types, a number of machines of said machine type in the machine supply, a set of part types in said machine type, a corresponding monetary value for each part type, and a number of each part type in said machine type,” the Examiner cited to column 9, lines 26-35, column 10, lines 26-40, column 13, lines 52-68, column 14, lines 1-10, column 24, lines 4-42, column 35, lines 1-25, Fig. 5 element 35, 42, 350 and Figs. 7, 26 and 30 of Suzuki as teaching these steps. However, these citations do not teach the steps of the claims, as discussed below.

In addition to the above discussion of the paragraph cited at column 9 lines 26-35, Suzuki discloses various databases that store information such as, regulatory information, legal information, recycle processing methods on a material-by-material basis and on a part-by-part basis, article specifications, and market information. The Examiner cited to another discussion of the market information database (at column 10, lines 26-40), which discloses that there is “stored information concerning market prices of used articles, stock information of the parts for maintenance, information concerning the demand for the articles of concern, etc., internally of the enterprise or company, as shown in FIG. 30.”

As discussed above, the cited paragraphs at column 13, lines 52-68 and column 14, lines 1-10 disclose a variety of stored information. For example, the information may generally be classified into four kinds of information: “(1) article specifications information of discarded articles, (2) article use history information, (3) statutory regulation/standard information, (4) recycle processing method information on a part/material basis, and (5) market information.” Other stored information available in

Suzuki is “outer dimensions, weight, performance information (such as dissipation power), information of component parts (part number, part name, manufacturer, model name, material, material manufacturer, weight, information concerning harmful / hazardous parts, information concerning reusable part candidate, use history, etc.), disassembling method, assembling method, quality check method, etc.”

The cited paragraphs at column 24, lines 4-42 disclose how a discarded article that does not meet a certain quality criteria may satisfy the quality criteria by repairing them or by exchanging some parts. Suzuki further discloses that the market price of the article to be restored may be estimated by acquiring information about the article, such as the manufacture name, article name, model name, manufactured date and the use history and then retrieving the price data of the used article of the same condition or the price data of similar used article on the market from a market information database. (Col. 24, Lines 16-27).

As mentioned above, the cited paragraphs at column 35, lines 1-25 disclose information stored in the article specifications information database 35. For example, the contents of the article specifications information includes: enumerated manufacturer name, category or class of article, name of article, manufactured date, component part information (part name, part number, part manufacturer, model name of part, harmfulness or non-harmfulness, possibility of reuse, use history, etc.), disassembling or decomposing methods (disassembling procedure, tool necessitated, disassemble guiding chart, etc.), etc.

The cited paragraphs at column 36, lines 1-34 disclose various databases and the information contained therein. For example, a market information database 41 contains information of the demand for used parts, market prices of various restored materials / substances, transportation costs, etc. Also disclosed is a database for storing various specification information about the recycling factor.

In none of the cited paragraphs does Suzuki teach or disclose at the very least “a number of machines of said machine type in the machine supply.” The cited paragraphs simply teach various information needed to perform various methods, which do not include or require “a number of machines of said machine type in the machine supply,” as recited in independent claims 1 and 30 and dependent 58. As such, the paragraphs of

Suzuki cited by the Examiner do not disclose “a number of machines of said machine type in the machine supply,” as recited in independent claims 1 and 30 and dependent claim 58.

With respect to the step of independent claims 1 and 30 and dependent claim 59, “configuring an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information,” and the step of independent claim 58 “configure the optimal dismantling configuration to meet the demand with a particular number and a particular type of machine from the machine supply,” the Examiner cited to column 24, lines 4-41, column 26, lines 1-25, column 40, lines 1-13 and column 41, lines 32-42 of Suzuki as teaching this step. However, these citations do not teach the step of the claims, as discussed below.

The cited paragraphs at column 24, lines 4-41 disclose how a discarded article that does not meet a certain quality criteria may satisfy the quality criteria by repairing them or by exchanging some parts. (Column 24, Lines 4-7). Suzuki goes on to discuss that a “step of deciding whether the discarded television is worthy to be restored by repairing or exchanging component parts may be provided for the purpose of promoting the restoration or regeneration of the discarded article.” (Col. 24, Lines 8-11). It is further indicated that “[s]uch decision method may be so designed as to compare the used-article market price of the corresponding used articles with the cost involved in restoring the article. When the restoration is profitable, then the discarded article is decided to undergo the recycle processing.” (Col. 24, Lines 11-16). Suzuki also discloses that the market price of the article to be restored may be estimated by acquiring information about the article, such as the manufacture name, article name, model name, manufactured date and the use history and then retrieving the price data of the used article of the same condition or the price data of similar used article on the market from a market information database. (Col. 24, Lines 16-27). It is further disclosed that “the cost involved in repairing the discarded article is estimated on the basis of data concerning the locations requiring to be repaired as detected in the quality check process as well as the costs involved in packing, shipping and others.” (Col. 24, Lines 27-31). In addition, Suzuki discloses that by comparing a used-article market price with the cost involved in restoration of the

discarded article, restoration or recycle processing is carried out for the discarded article when profitable. (Col. 24, Lines 33-41).

However, Suzuki does not teach or disclose “configuring an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information,” or “configure the optimal dismantling configuration to meet the demand with a particular number and a particular type of machine from the machine supply.” Applicants point out to the Examiner that at the very least, “configuring an optimal dismantling configuration of the machine supply” is different from the “used-article market price” being used to determine whether an article, such as a “television is worthy to be restored by repairing or exchanging component parts,” as disclosed in Suzuki. As such, the paragraphs of Suzuki cited by the Examiner do not disclose the step of independent claims 1 and 30 and dependent claim 59, “configuring an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information,” and the step of independent claim 58 “configure the optimal dismantling configuration to meet the demand with a particular number and a particular type of machine from the machine supply.”

The cited paragraphs at column 40, lines 1-13 and column 41, lines 32-42 disclose for a given component part that is commercially demanded, the purchase price of the part is retrieved from the used part information. Additionally, fees are considered for disassembling the part for the discarded article and as well as estimated transportation costs. These cost are compared to the purchase price of the used part dealers for determining whether a profit will result from the disassembly.

In the cited paragraphs at column 26, lines 1-25, Suzuki discuss how the decision to reuse a part or assembly is ordinarily made on the basis of predetermined indicators, which are assigned to the part or assembly during manufacturing of the part or assembly. (Col. 26, Lines 3-8 and Col. 25, Lines 61-67). Suzuki further discloses that “even when a part or assembly is not designated as the part or assembly destined for the reuse by the component part information, decision may nevertheless be made such that the part or assembly of concern is to be reused, when the information indicating that demand for the part and the assembly exists is derived from the market information.” (Col. 26, Lines 19-25).

In short, Suzuki teaches analyzing a discarded article (e.g. television) to determine which parts or assemblies making up the television were designated for reuse at the time of manufacturing of the television, or were not designated for reuse, but are in market demand. Market factors and transportation costs are considered, in both cases, to determine whether it would be profitable to reuse a part or assembly.

In none of the cited paragraphs does Suzuki teach or disclose “configuring an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information,” and “configure the optimal dismantling configuration to meet the demand with a particular number and a particular type of machine from the machine supply.” Suzuki simply teaches checking market information for demand of a particular part or assembly whether designated for reuse or not. As such, the paragraphs cited by the Examiner do not in fact teach “configuring an optimal dismantling configuration of the machine supply to meet the parts demand as a function of the machine supply information,” and “configure the optimal dismantling configuration to meet the demand with a particular number and a particular type of machine from the machine supply,” as recited in independent claims 1, 30 and 58 and dependent claim 59.

Accordingly, because none of the text in Suzuki cited by the Examiner teaches the steps of claims 1, 30, 58 and 59 Applicants request that this rejection of claims 1, 30, 58 and 59 be withdrawn.

35 U.S.C. §103(a) Rejections

The Examiner rejected claims 2, 5-10, 12, 20, 31, 33-38, 40, 48, 60, 62-67, 69 and 77 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,965,858 to Suzuki et al, as applied to claims 1, 3-4, 11, 19, 21-30, 32, 39, 47, 49-59, 61, 68, 76 and 78-86 above.

Claims 2, 5-10, 12, 20, 31, 33-38, 40, 48, 60, 62-67, 69 and 77 are dependent claims that depend on independent claims 1, 30 and 58 and consequently incorporate the limitations of independent claims 1, 30 and 58. Applicants submit that claims 2, 5-10, 12, 20, 31, 33-38, 40, 48, 60, 62-67, 69 and 77 are patentable by virtue of their dependency from independent claims 1, 30 and 58 which is believed to be patentable for reasons set

forth in the discussion above. Accordingly, favorable consideration of claims 2, 5-10, 12, 20, 31, 33-38, 40, 48, 60, 62-67, 69 and 77 is requested.

The Examiner rejected claims 13-14, 41-42 and 70-71 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,965,858 to Suzuki et al, as applied to claims 1-12, 19-40, 47-69 and 76-86 above and further in view of Kaburagi et al. U.S. Patent 6,732,417.

Claims 13-14, 41-42 and 70-71 are dependent claims that depend on independent claims 1, 30 and 58 and consequently incorporate the limitations of independent claims 1, 30 and 58. Applicants submit that claims 13-14, 41-42 and 70-71 are patentable by virtue of their dependency from independent claims 1, 30 and 58 which is believed to be patentable for reasons set forth in the discussion above. Accordingly, favorable consideration of claims 13-14, 41-42 and 70-71 is requested.

The Examiner rejected claims 15-18, 43-46 and 72-75 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,965,858 to Suzuki et al, as applied to claims 1-12, 19-40, 47-69 and 76-86 above and further in view of Hoshino et al., Optimization Analysis For Recycle-Oriented Manufacturing Systems (1995).

Claims 15-18, 43-46 and 72-75 are dependent claims that depend on independent claims 1, 30 and 58 and consequently incorporate the limitations of independent claims 1, 30 and 58. Applicants submit that claims 15-18, 43-46 and 72-75 are patentable by virtue of their dependency from independent claims 1, 30 and 58 which is believed to be patentable for reasons set forth in the discussion above. Accordingly, favorable consideration of claims 15-18, 43-46 and 72-75 is requested.

In light of the above amendments and remarks, Applicants believe that all rejections have been overcome. Reconsideration and allowance of claims 1-86 is respectfully requested.

An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,
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